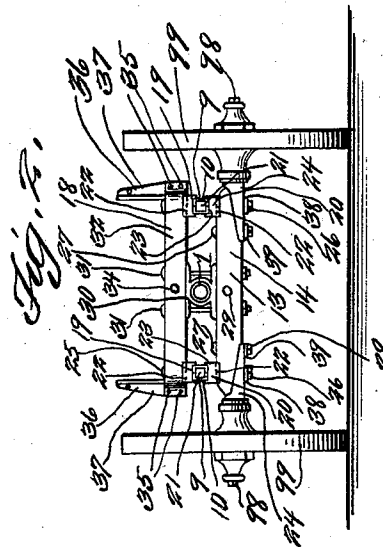
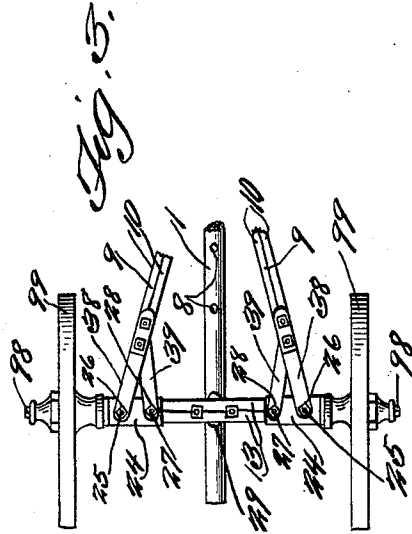
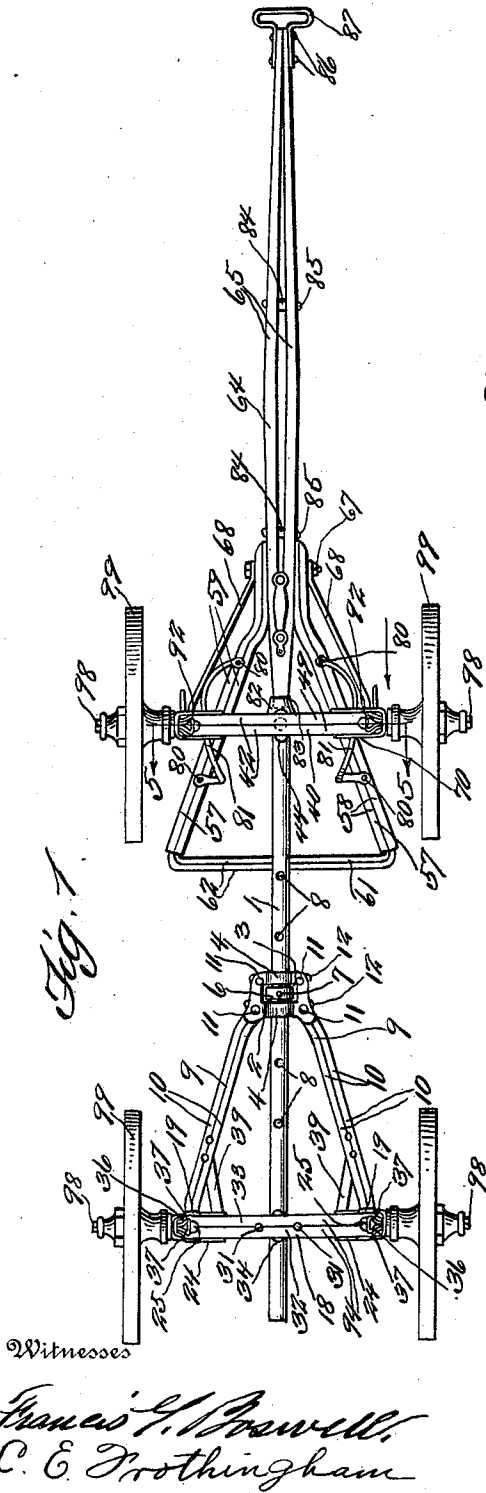


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WAGON RUNNING GEAR.
APPLICATION FILED JULY 1, 1911.

1,046,258.

Patented Dec. 3, 1912.

3 SHEETS-SHEET 1.



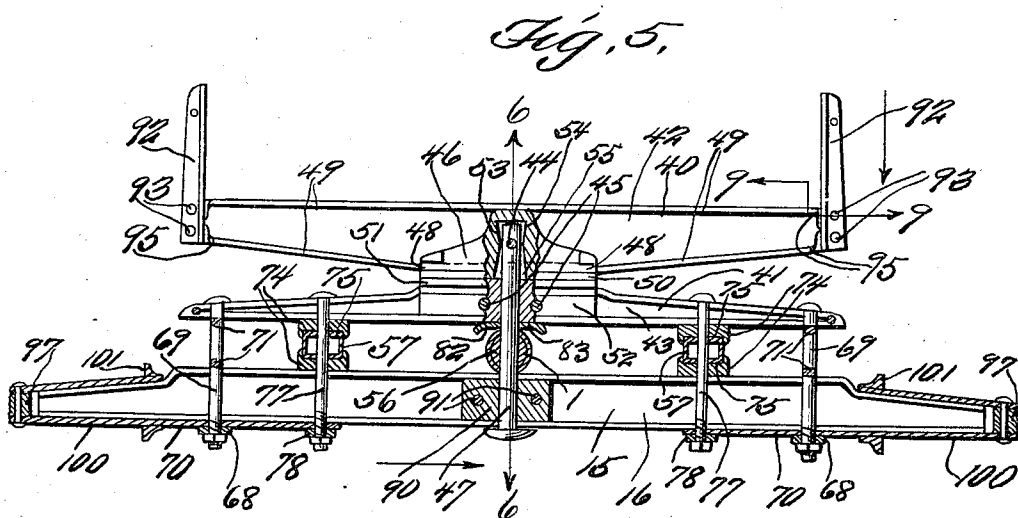
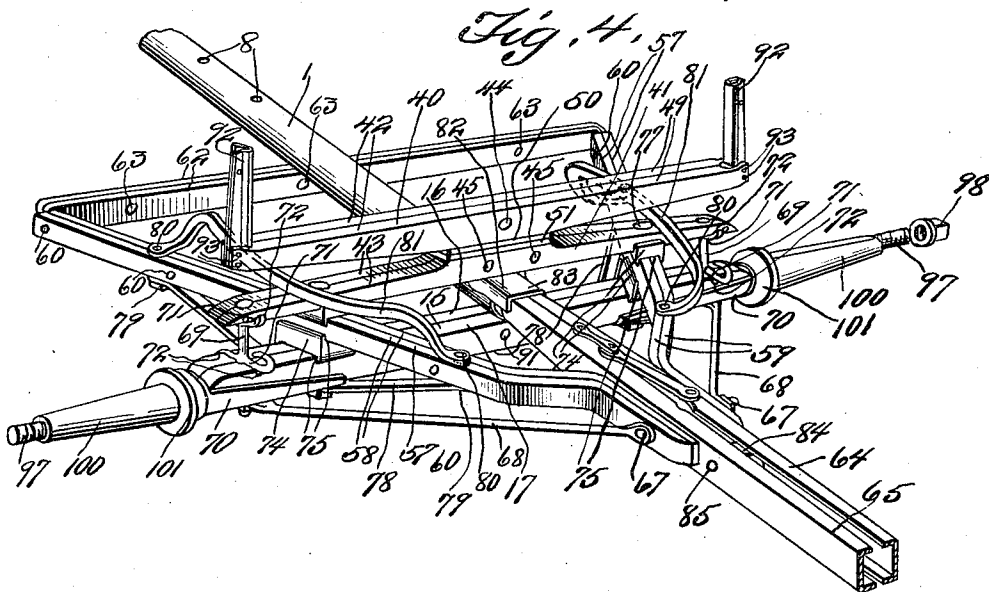
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3 SHEETS—SHEET 2.



Witnesses

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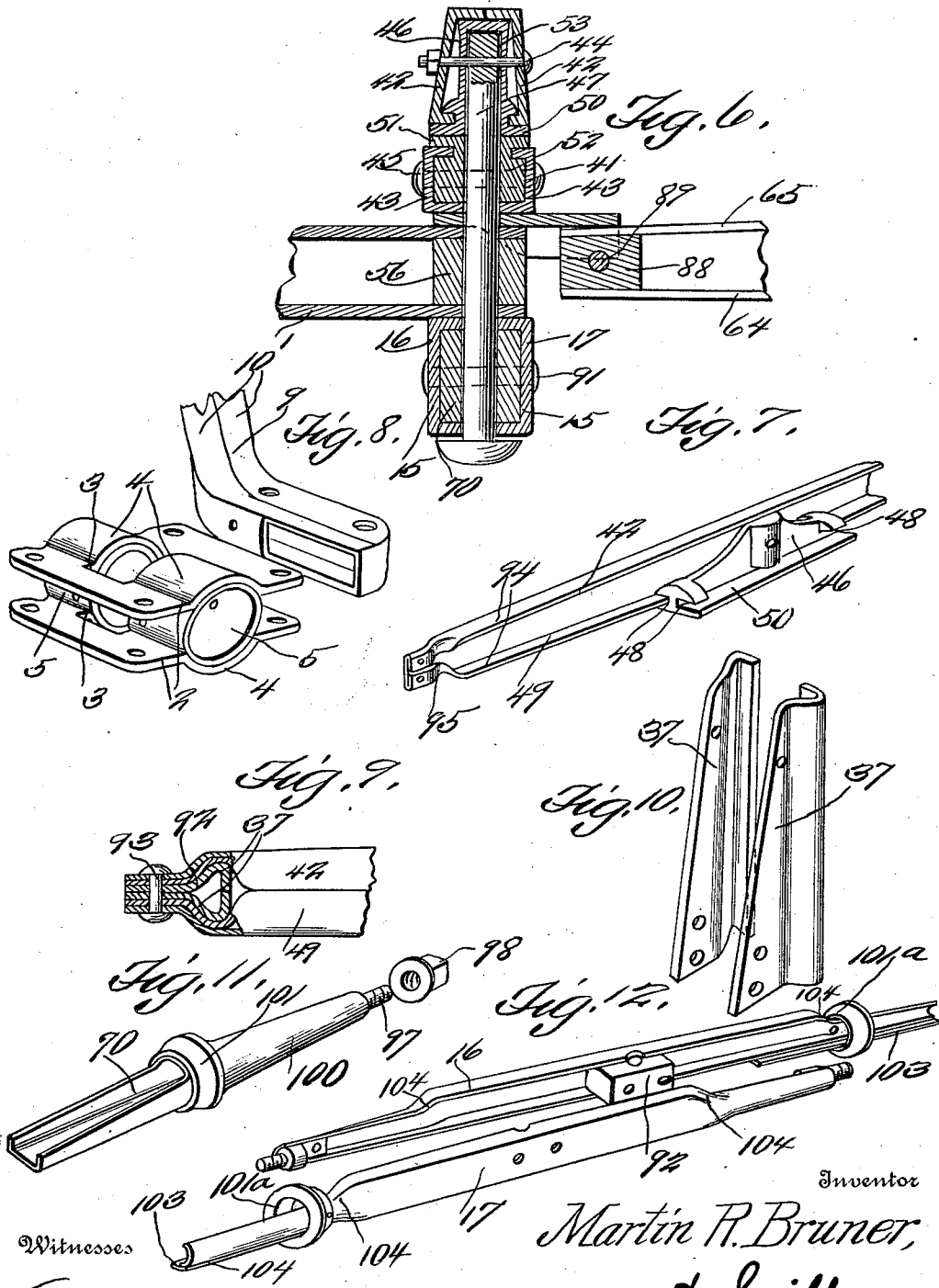
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

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WAGON RUNNING-GEAR.

1,046,258.

Specification of Letters Patent.

Patented Dec. 3, 1912.

Application filed July 1, 1911. Serial No. 636,538.

To all whom it may concern:

Be it known that I, MARTIN R. BRUNER, a citizen of the United States, residing at Wapakoneta, in the county of Auglaize and State of Ohio, have invented a new and useful Wagon Running-Gear; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a new and useful vehicle running gear, including every thing relative to a vehicle, excepting the wheels, which are shown for illustrative purposes.

The principal object of the invention is the provision of an improved running gear constructed entirely of sheet metal.

A further feature of the invention is to construct the various parts of the running gear in hollow or tubular form, the same being so arranged and braced, as to insure great strength, rigidity, durability, and efficiency, so as to withstand the heaviest loads.

A further feature of the invention is the provision of solid metal wearing surfaces between the front pivotal bolster and the lower bolster, and between the forward axle, the reach and the lower bolster. These solid metal wearing surfaces are obtained by the provision of core blocks arranged centrally and upon the interior of the hollow bolsters, the reach and the forward axle.

A further feature of the invention is the production of the removable, renewable hollow skeins to fit the ends of the body of the axles telescopically, so as to act as the spindles of the axles.

An important advantage of the invention is the fact that, for a small expenditure a running gear of this nature may be repaired readily, by renewing the worn or broken part.

It has been found through experience that a running gear of this nature is much lighter when without a load, to be drawn by a team of horses, than a running gear constructed of wood. The various sheet metal parts are to be bolted, riveted or otherwise connected together.

The drawings disclose certain features of construction, but in practical fields these features may necessitate alterations, to which the applicant is entitled, provided the alterations are comprehended within the scope of what is claimed.

The invention comprises further features and combination of parts, as hereinafter set forth, shown in the drawings and claimed.

In the drawings:—Figure 1 is a plan view of a running gear constructed in accordance with the invention. Fig. 2 is a rear view. Fig. 3 is a bottom plan view of the rear portion of the running gear. Fig. 4 is a view in perspective of the forward axle, the upper and lower bolsters and the forward hounds, and their co-acting parts. Fig. 5 is a longitudinal sectional view through the forward axle and the upper and lower bolsters. Fig. 6 is a sectional view on line 6—6 of Fig. 5. Fig. 7 is a view in perspective of one of the sheet metal sections of the upper forward bolster, showing the core or filler block, whereby a solid metal wearing surface may be obtained between the upper and forward bolsters. Fig. 8 is a view of the hound plate, through which the reach is slidably adjustable, showing a section of one of the rear hounds about to be connected to the hound plate. Fig. 9 is a sectional view on line 9—9 of Fig. 5, showing the connection between one of the standards and the forward bolster. Fig. 10 is a view in perspective of two plates, used for constructing the standards of the bolster. Fig. 11 is a perspective view of one of the removable renewable skeins. Fig. 12 is a perspective view of a modified form of axle, showing the two sheet metal trough like sections ready to be connected by sliding them together.

Referring to the drawings, 1 designates the reach of the running gear. Fitting the reach are the hound plates 2. The hound plates are provided with openings 3, which are disposed in registration. Between the curved arched portions 4 of the hound plates, and fitting telescopically on the reach are the ring bands 5, between which and in the openings of the plates the collar 6 is arranged. This collar 6 fits the reach telescopically, and may be adjusted on the reach by means of the pin 7 and the apertures 8, so that the front and rear axles may be brought together or separated.

The rear hounds 9 are hollow, and are constructed of two sheet metal trough like sections 10, the forward ends of which are riveted, bolted or otherwise secured between the hound plates 2, as shown at 11. The forward ends of the rear hounds 9 are fur-

ther secured, by means of rivets or bolts 12 (which pass through the hounds and the ring bands) between the hound plates, as shown.

5 The rear axle is constructed of two sheet metal trough like sections 13, while the forward axle 15 is similarly constructed of two sheet metal trough like sections 16 and 17, as shown in Figs. 4, 5 and 6. The rear bolster 18 of the running gear is arranged 10 above and spaced apart from the rear axle 14, by means of the supporting blocks 19 and 20, between which the rear ends of the hounds 9 are arranged. The rear extremities of the hounds 9 are provided with fillers 15 21. The blocks 19 and 20 are recessed at right angles, as shown at 22 and 23, for the reception of the hounds, the rear axle 14 and the bolster 18. Extending through the bolster 18, the rear axle 14, its skeins 24, and the hounds 9 and blocks, 19 and 20 are the bolts 25, on the lower ends of which the nuts 26 are threaded. The skeins 24 are further secured to the rear axle 14 by means of 25 the bolts and nuts 27 and 28. The two sections of the axle 14 are riveted together as at 29; while the skeins 24 hold the outer ends of the sections firmly together. Arranged between the bolster 18 and the axle 14 is an 30 apertured plate 30, which is secured in position by the bolts 31. The reach 1 extends slidably through the plate 30. The bolster 18 is also constructed of two sheet metal trough like sections 32 and 33, which are 35 riveted or bolted together as shown at 34 and 35, and between the ends of the sections 32 and 33 the standards 36 are riveted, as shown. These standards are formed by two sheet metal plates 37, as shown in Figs. 40 1, 2 and 10. The rear hounds 9 are braced with regard to the axle 14 by the brace bars 38 and 39.

The upper and lower forward bolsters 40 and 41 are constructed of two sheet metal trough like sections 42 and 43. The sections 42 are secured together at their central portions by a riveted pin 44, while the sections 43 are riveted together by the pins 45. The pin 44 passes through the filler 50 block 46, and through the king pin 47. This filler block is of the shape shown in Fig. 7 having the recessed portions 48 for the reception of the flanges 49 of the sections 42. The block 46 not only acts as a filler, but 55 also constitutes a member for standing wear, by virtue of the plate 50, which frictionally contacts with the plate 51 of the filler block 52, which is fastened between the sections 43 of the bolster 41 by the rivets 45. As 60 shown in Fig. 5 of the drawings the block 46 is provided with a depression 53, for the reception of the king pin 47. This depression 53 above and below the pin 44 is enlarged on two of its sides, so as to permit 65 the bolster 40 to rock. These enlarged por-

tions are designated by the characters 54 and 55. The king pin passes through the end of the reach, which is provided with a filler 56, as shown in Fig. 5.

The forward hounds 57 are formed of two sheet metal trough like sections 58 and 59, 70 which are riveted or otherwise secured together, as shown at 60. The rear ends of the hounds 57 are connected by the member 61 which is constructed of sheet metal trough like sections 62, riveted together as at 63. 75 The forward ends of the hounds 57 are bolted or otherwise secured to the tongue 64 (which is constructed of sheet metal trough like members 65) as shown at 67. 80 The bolt 67 not only secures the hounds 57 to the tongue, but also secures the braces 68 in place. The rear ends of the braces 68 are bolted to the forward axle 15, by means of the bolts 69, which penetrate the skeins 85 70 and the bolster 41. The bolts 69 are provided with laterally extending portions 71, above and below, which terminate into lugs 72, between which the sections 43 of the bolster 41 and the sections 16 and 17 of the 90 axle 15 are arranged, thus constituting means for holding the sections together securely. Arranged between the bolster 41 and the axle 15 are the supporting spacing blocks 74, which are provided with recesses 95 75 extending at right angles to each other, for the reception of the axle 15, the hounds 57 and the bolster 41, for holding the respective sections of these parts more firmly together. Bolts 77 penetrate the bolster 41, 100 the blocks 74 and the axle 15, as well as the hounds 57. These bolts 77 also secure the braces 78 (which connect to the rear and forward portions, as at 79 of the hounds 57) in place. The braces 78 strengthen the 105 hounds 57, with relation to the axle 15. Connected to the rear and forward portions of the hounds 57, as shown at 80, are the curved bars 81, which rest upon the bolster 41, and constitute guards or wearing mem- 110 bers for the bolster 40, that is, when the axle 15 is being turned in one direction or the other.

Arranged between the reach 1 and the bolster 41 is a plate 82, which terminates 115 in a trough like end 83, for the reception of the rear end of the tongue 64, so as to support the tongue above the ground. The sections 65 of the tongue are held spaced apart by the blocks 84, through which and the section 65 the rivets 85 extend, for holding the sections securely together. The forward ends of the sections 65 are further secured together by means of the rivets 86, which also secure the loop 87 to the tongue. 125 Arranged between the section 65 at the rear of the tongue is a block or filler 88, through which the rivet 89 passes.

Arranged between the sections 16 and 17 of the axle 15 is a block or filler 90, through 130

which the king pin 47 extends. Rivets 91 pass through the block 90 and the sections 16 and 17, for holding the sections together.

The bolster 40 is provided with standards 5 92, which are similar to the standards 36, that is, constructed from plates like shown in Fig. 10. The standards 92 are secured between the sections 42 of the bolster 40 by means of the rivets 93. In order to arrange 10 the standards 36 and 92 between the sections of the rear bolster and the bolster 40, the flanges 94 of the sections are bent over, as shown at 95 in Figs. 5 and 7, after which the respective sections of the bolsters are 15 shaped to conform to the transverse contour of the standards 92, as shown in Fig. 9.

The rear and forward skeins 24 and 70 are constructed of sheet metal, as shown, and are provided with threaded members 97, 20 which receive the nuts 98, for securing the wheels 99 on the spindles 100, which are formed by the skeins. The spindles 100 are those portions of the skeins between the threaded members 97 and the collars 101.

25 In Fig. 12 the sections 16 and 17 of the axle 15 are connected together by a sliding action, and when connecting the sections, one end of each of the sections is passed through the collars 101^a, which are riveted, 30 one to each of the sections 16 and 17. One end of each of the sections 16 and 17 is provided with an elongated plate 103, to overlap the adjacent end of the opposite section, thus affording strengthening means. These 35 plates 103 blend into the ends of the sections 16 and 17, as shown at 104 in Fig. 12, which ends constitute the spindles, of the axle shown in Fig. 12.

40 The wheels which are shown in Figs. 1, 2 and 3 form independent subject matter of the application filed Apr. 16, 1909, Serial No. 490,400.

45 From the foregoing it will be noted that there has been devised a novel, simple, durable and efficient running gear constructed wholly of metal, and one which has been found to be practical in every phase. It has been found that the running gear constructed 50 entirely of sheet metal of a thickness ranging from an eighth to three sixteenths of an inch will stand more weight and rough usage than any other running gear now in use, that is, which is constructed of wood or the like.

55 The invention having been set forth, what is claimed as new and useful is:—

1. In a running gear constructed entirely of sheet metal and having a bolster, comprising two sheet metal trough like sections 60 having flanges, a filler block arranged between the sections having recesses to receive two of the flanges.

2. In a running gear constructed entirely of sheet metal and having a bolster, comprising 65 two sheet metal trough like sections, a

filler block arranged between the sections and formed with a wear plate, and means for securing the sections and the block together.

3. In a running gear constructed entirely 70 of sheet metal and having a bolster, comprising two sheet metal trough like sections having flanges, a filler block arranged between the sections having recesses to receive 75 two of the flanges, the filler block having a wear plate, means for securing the sections together with the block therebetween, in combination with a second bolster provided with a wear plate.

4. In a running gear constructed entirely 80 of sheet metal and having a bolster, comprising two sheet metal trough like sections having flanges, a filler block arranged between the sections having recesses to receive 85 two of the flanges, the filler block having a wear plate, means for securing the sections together with the block therebetween, a lower bolster comprising two sheet metal sections having flanges, a filler block secured therebetween having grooves to receive 90 the flanges and formed with the wear plate to cooperate with the first wear plate, and means for securing the second sections together.

5. In a running gear constructed entirely 95 of sheet metal and having a bolster, comprising two sheet metal trough like sections having flanges, a filler block arranged between the sections having recesses to receive 100 two of the flanges, the flanges at the ends of the sections being flattened against the sections, standards comprising two sheet metal plates arranged between the ends of the sections, and means for riveting the ends 105 of the sections.

6. In a running gear constructed entirely of sheet metal and having an axle, a bolster spaced apart therefrom, a pair of blocks having recesses to partially receive the axle 110 and the bolster, a pair of hounds, the blocks having recesses extending at right angles with the first recesses to receive the hounds, and means for securing the axle, the bolster, and the blocks and hounds together.

7. In a front running gear constructed of 115 metal having an axle and an adjacent bolster; supporting spacing blocks, arranged in pairs between the ends of the bolster and axle, said blocks having flanges between which the axle and bolster are arranged; 120 hounds adapted to connect to a tongue, and arranged between the blocks of each pair, the adjacent faces of each pair of blocks having flanges extending at right angles to the first flanges between which each hound 125 is arranged; and means penetrating the bolster, the blocks, the hounds, and the axle for holding said parts together.

8. In a front running gear constructed of sheet metal having an axle and a bolster and 130

provided with hounds secured between the
bolster and the axle, the bolster being hollow
and provided with a central filler block hav-
ing a wear plate, a king pin passing through
5 the axle, the bolster and the filler blocks and
adapted to secure a reach in place, a second
hollow bolster having a filler block arranged
therein provided with a wear plate to en-
gage the first wear plate, the second filler
10 block having a depression to receive the up-
per end of the king pin, and a pin ex-
tending transversely of the second bolster
and its filler block and the king pin, the de-
pression above and below the transverse pin
15 upon two of its sides being enlarged to per-
mit the second bolster to rock.

9. In a front running gear constructed of
sheet metal having an axle and a bolster and
provided with hounds secured between the
20 bolster and the axle, the bolster being hollow
and provided with a central filler block hav-
ing a wear plate, a king pin passing through
the axle, the bolster and the filler block and
extending above the bolster and adapted to
25 secure a reach in place, a second bolster
having a wear plate to engage the first
wear plate, and means for pivoting the sec-
ond bolster to the king pin so as to rock ver-
tically thereon.

10. In a front running gear constructed 20
of sheet metal having an axle and a bolster
and provided with hounds between the bol-
ster and the axle, blocks, one arranged above
and one below each hound, each block hav-
ing means to prevent displacement of such 35
parts, and means penetrating the bolster,
the blocks, the hounds, and the axle for
holding the parts together.

11. In a front running gear constructed of
sheet metal having an axle and a bolster and 40
provided with hounds between the bolster
and the axle, blocks, one arranged above and
one below each hound, each block having
means to prevent displacement of such parts,
and means penetrating the bolster, the 45
blocks, the hounds and the axle for holding
the parts together, a king pin passing
through the axle and the bolster and adapt-
ed to secure a reach in place, and a second
bolster pivotally mounted upon the upper 50
end of the king pin to rock vertically thereon.

In testimony whereof I have signed my
name to this specification in the presence
of two subscribing witnesses.

MARTIN R. BRUNER.

Witnesses:

DEAN SWIFT,
ROBERT A. BOSWELL.